Weekly Influenza Surveillance Report

Maryland Department of Health and Mental Hygiene | Infectious Disease and Environmental Health Administration
Office of Infectious Disease Epidemiology and Outbreak Response

SYNOPSIS

During week 49, influenza activity in Maryland increased slightly, compared to recent weeks. The proportion of visits to providers due to influenza-like illness (ILI) was below baseline. The proportion of Maryland residents reporting ILI also remains low. One outbreak of ILI was reported. Two influenza-associated hospitalizations were reported. Positive rapid influenza tests continue to be reported by collaborating laboratories in low numbers. Based on all the information available, influenza activity in Maryland is "**LOCAL**" with "**MINIMAL INTENSITY**".

Influenza activity indicators have trended upward in the last few weeks, as is normally the case as the weather gets colder. Last season (2009-10), influenza activity peaked in mid-October. From 2004 to 2009, influenza activity in Maryland peaked between late January and early March. Whether or not that will be the case this season remains to be seen and is dependent on many factors.

INFLUENZA-LIKE ILLNESS SURVEILLANCE (ILINet)

During week 49, 12 sentinel providers reported 96 (1.3%) of 7,575 visits to their practices were for ILI. This is below the state baseline of 5.6%.

This same week last season, when influenza activity peaked late in October of 2009 and was on the decline by December, the proportion of visits for ILI was 3.4%.

For more information on the US Outpatient Influenza-like Illness Reporting Network (ILINet), please visit our website: http://dhmh.maryland.gov/fluwatch and click on "ILINet Sentinel Providers".

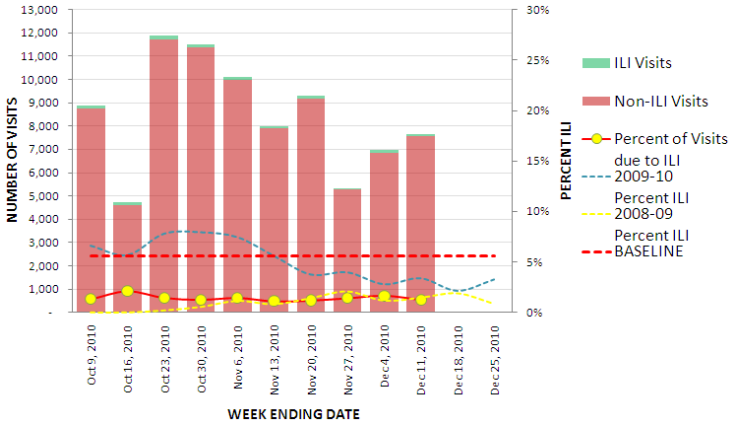

Figure 1. Number of visits and proportion of visits for ILI to ILINet sentinel providers, 2010-11 influenza season

CLINICAL LAB REPORTS OF RAPID FLU TESTING

During week 49, 19 clinical laboratories reported 16 (3.9%) of 415 rapid influenza tests as positive. Fourteen were positive for type A, and two were positive for type B influenza. This proportion of positive tests was higher than the proportion reported at this time last season, which was 2.6%.

It is important to remember that early in the season (such as now), when influenza is not very prevalent (established) in the community, rapid influenza tests tend to be less accurate than PCR tests or viral culture.

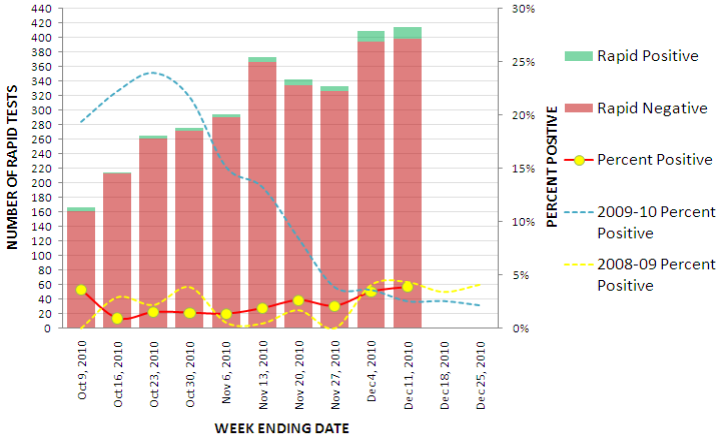

Figure 2. Number and result of rapid tests reported by clinical laboratories, 2010-11 influenza season

Type of Positives	Number (%)
Type A	53 (73%)
Type B	20 (27%)
Positive, but not typed	0
Total Positive	73 (100%)

Table 1. Number of positive rapid influenza tests, by type, reported by collaborating clinical laboratories, 2010-11 season

GET VACCINATED!

Go to http://dhmh.maryland.gov/swineflu/getVaccinated.html and find your local health department for more information.

MARYLAND RESIDENT INFLUENZA TRACKING SURVEY (MRITS)

During week 49, 617 (40.4% of total) participants in the MRITS responded to the weekly survey. Of those who responded, 16 (2.6%) reported flu-like illness. This proportion is lower than this same week last season, when about 3.5% of respondents reported flu-like illness.

We are always looking for more participants for the MRITS. If you know someone who would like to participate, please direct them to our website: http://dhmh.maryland.gov/flusurvey.

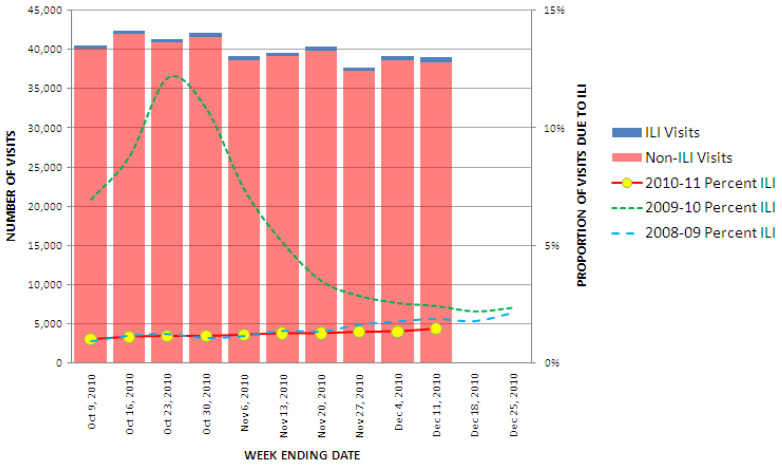

Figure 3. Number of responses and proportion reporting ILI to the MRITS by week, 2010-11 influenza season

DHMH LABORATORIES ADMINISTRATION REPORTS

During week 49, the DHMH Laboratories Administration performed a total of 6 PCR tests for influenza. None tested positive for influenza.

The table to the right shows the breakdown of positive tests by influenza strain for the 2010-11 influenza season.

More information on the valuable work done by the DHMH Laboratories Administration is available at http://dhmh.maryland.gov/labs.

Influenza Type	No. (%)
Type A	
H1	2 (17%)
H3	8 (67%)
Unsubtyped	0 (0%)
Type B	2 (17%)
TOTAL	12 (100%)

Table 1. Number of respiratory samples positive for influenza by PCR reported by the DHMH Labs Administration, 2010-11 influenza season

EIP INFLUENZA HOSPITALIZATION SURVEILLANCE

During week 49, two hospitalizations associated with influenza were reported to the Emerging Infections Program (EIP). To date, there have been 38 hospitalizations associated with influenza reported to EIP.

To be a confirmed hospitalization associated with influenza, the person must be hospitalized and have a positive influenza test of any kind (rapid test, PCR, culture).

This week last season, a total of 16 hospitalizations were reported. A total of 1,400 hospitalizations were reported to EIP last season.

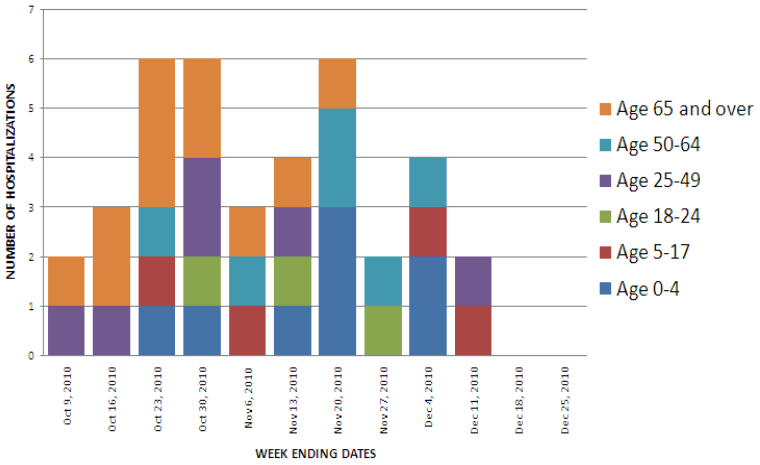

Figure 4. Number of hospitalizations associated with influenza, by age group and week, reported to the Emerging Infections Program, 2010-11 influenza season

DID YOU KNOW?

Influenza viruses bind to epithelial (topmost) cells of the respiratory tract of mammals and intestines of birds through hemagglutinin, a protein that helps in the binding process (and the “H” in “H1N1” or “H3N2”). Once the virus replicates inside the host cell, it uses neuraminidase (the “N” in “H1N1” or “H3N2”) to release the newly-made viruses. Drugs for the treatment of influenza are aimed at these two proteins. Unlike antibiotics, influenza antivirals do not aim to kill the virus. Instead, they aim at preventing the virus from attaching to nearby cells and, if it already has attached, to prevent new viruses from being released.

REPORTS OF OUTBREAKS IN INSTITUTIONAL SETTINGS

During week 49, one outbreak of influenza-like illness was reported. Last season, a total of 208 outbreaks of respiratory illness were reported. Of those, 33 were confirmed as influenza outbreaks. Institutional settings include schools, hospitals, colleges and universities, and long-term care locations. An outbreak of ILI is re-classified as an outbreak of influenza if there is laboratory evidence of influenza virus present in the samples collected from case-patients during the outbreak.

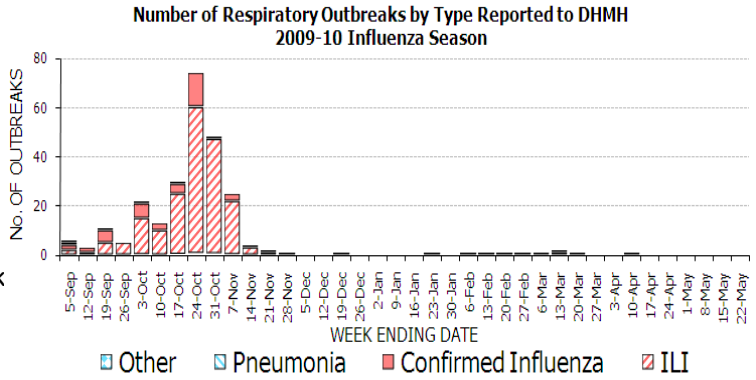

Figure 5. Number of outbreaks reported by week and by type during the 2009-10 influenza season. This graph will be updated as more outbreaks are reported this season.

EMERGENCY DEPARTMENT ILI REPORTS (ESSENCE)

During week 49, a total of 38,975 visits to emergency departments for all reasons were reported to the Office of Preparedness and Response through the ESSENCE system. Of those visits, 564 (1.5%) were for influenza-like illness. This proportion is lower than those observed over the prior two influenza seasons.

For more information on ESSENCE, please visit the Office of Preparedness and Response's web site at: http://bioterrorism.dhmh.state.md.us.

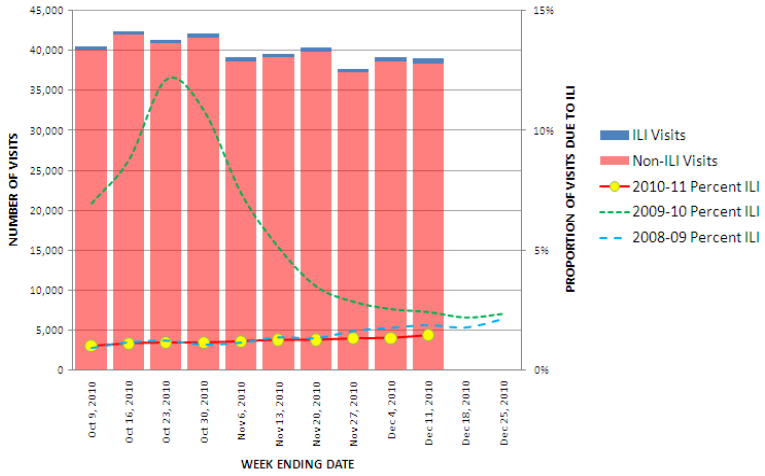

Figure 6. Number and proportion of visits to emergency departments for ILI by week reported through ESSENCE, 2010-11 influenza season.

GOOGLE FLU TRENDS

According to Google, influenza activity in Maryland is currently "**LOW**". What does this mean? From the Google Flu Trends Website: "We have found a close relationship between how many people search for flu-related topics and how many people actually have flu symptoms. Of course, not every person who searches for 'flu' is actually sick, but a pattern emerges when all the flu-related search queries are added together. We compared our query counts with traditional flu surveillance systems and found that many search queries tend to be popular exactly when flu season is happening. By counting how often we see these search queries, we can estimate how much flu is circulating in different countries and regions around the world."

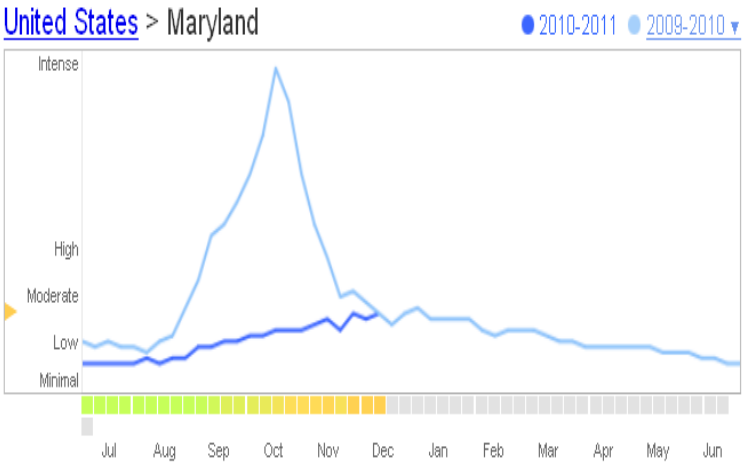

Figure 7 – According to Google Flu Trends, influenza activity in Maryland is currently "low". At this time last year, during the 2009 H1N1 influenza pandemic, influenza activity in Maryland was "high" to "intense".

DID YOU KNOW?

Scientists did not know exactly what caused influenza, but they had a lot of clues. Whatever it was, it was infectious, communicable, and very, very tiny. This is why masks, isolation, quarantine, and even fines for spitting in public were instituted during the 1918 pandemic. The influenza virus would not be discovered until the 1930s, when a combination of virus culture techniques and better microscopes opened the doors to greater understanding.

OFFICE OF INFECTIOUS DISEASE EPIDEMIOLOGY AND OUTBREAK RESPONSE

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http://dhmh.maryland.gov

ALL THE INFORMATION INCLUDED IN THIS REPORT IS PROVISIONAL AND SUBJECT TO CHANGE AS MORE DATA ARE RECEIVED FROM SURVEILLANCE SOURCES.

THE INFORMATION INCLUDED IN THIS REPORT IS NOT INTENDED TO BE USED FOR INDIVIDUAL DIAGNOSES.

ONLINE VERSION OF THIS REPORT AND PAST SEASONS' REPORTS MAY BE DOWNLOADED AT:

http://dhmh.maryland.gov/fluwatch

FLU SURVEILLANCE IN NEIGHBORING STATES:

DELAWARE-

HTTP://BIT.LY/9Zkp3

DC-

http://tinyurl.com/yj7br9e

PENNSYLVANIA-

http://tinyurl.com/37323xn

VIRGINIA-

http://tinyurl.com/kmnaeu

WEST VIRGINIA-

http://tinyurl.com/39m2kon

CDC NATIONAL INFLUENZA SURVEILLANCE REPORT (http://cdc.gov/flu/weekly)

During week 49 (December 5 - December 11, 2010), influenza activity in the United States increased.

* Of the 3,295 specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division, 363 (11.0%) were positive for influenza.

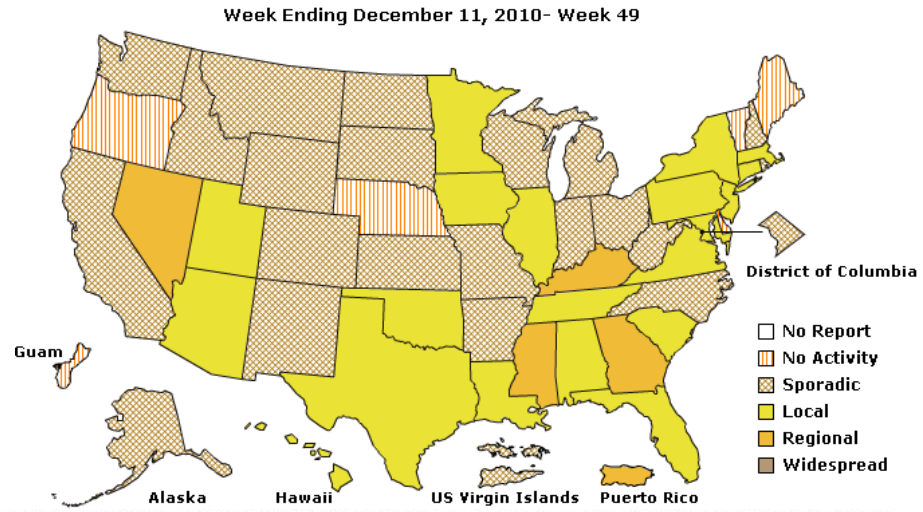
* One human infection with a novel influenza A virus was reported.

* The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold.

* One influenza-associated pediatric death was reported and was associated with Influenza A (H3) virus infection.

* The proportion of outpatient visits for influenza-like illness (ILI) was 1.8%, which is below the national baseline of 2.5%. All 10 regions reported ILI below region-specific baseline levels; two states (Alabama and Georgia) experienced high ILI activity, New York City and three states experienced low ILI activity, 45 states experienced minimal ILI activity, and the District of Columbia had insufficient data.

* The geographic spread of influenza in Puerto Rico and four states (Georgia, Kentucky, Mississippi, and Nevada) was reported as regional, 20 states reported local activity; the District of Columbia, the U.S. Virgin Islands, and 21 states reported sporadic activity, and Guam and five states reported no influenza activity.



Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILInet
2010-11 Influenza Season Week 49 ending Dec 11, 2010